This Listing of Claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

Claims 1-352 (canceled)

Claim 353 (new) A compound of formula I:

$$(R^{x})_{q} = \begin{bmatrix} O \end{bmatrix}_{n} \\ S \\ 1 \\ 2 \\ R^{8} \\ R^{2} \\ R^{2} \\ R^{3} \end{bmatrix}$$
 (I)

wherein:

q is 1 or 2; n is 2; R^1 and R^2 are each alkyl; R^3 is hydroxy; R^4 and R^6 are hydrogen; and R^5 has the formula (II)

wherein:

t is an integer from 0 to 5;

one or more R^y are independently selected from the group consisting of alkyl, alkenyl, alkynyl, polyalkyl, polyether, aryl, haloalkyl, cycloalkyl, heterocycle, arylalkyl, halogen, oxo, OR^{13} , $NR^{13}R^{14}$, SR^{13} , $S(O)R^{13}$, SO_2R^{13} , SO_3R^{13} , $NR^{13}OR^{14}$, $NR^{13}NR^{14}R^{15}$, NO_2 , CO_2R^{13} , CN, OM, SO_2OM , $SO_2NR^{13}R^{14}$, $C(O)NR^{13}R^{14}$, C(O)OM, COR^{13} , $NR^{13}C(O)R^{14}$, $NR^{13}C(O)R^{14}R^{15}$, $NR^{13}CO_2R^{14}$, $OC(O)R^{13}$, $OC(O)NR^{13}R^{14}$, $NR^{13}SOR^{14}$, $NR^{13}SO_2R^{14}$, $NR^{13}SONR^{14}R^{15}$, $NR^{13}SO_2NR^{14}R^{15}$, $P(O)R^{13}R^{14}$, $P^+R^{13}R^{14}R^{15}A^-$, $P(OR^{13})OR^{14}$, $S^+R^{13}R^{14}A^-$, and $N^+R^9R^{11}R^{12}A^-$; and

A is a pharmaceutically acceptable anion and M is a pharmaceutically acceptable cation; and

- said R⁹ alkyl, alkenyl, alkynyl, polyalkyl, polyether, aryl, haloalkyl, cycloalkyl, and heterocycle can be substituted with one or more substituent groups selected from the group consisting of OR⁷, NR⁷R⁸, SR⁷, S(O)R⁷, SO₂R⁷, SO₃R⁷, CO₂R⁷, CN, oxo CONR⁷R⁸, N⁺R⁷R⁸R⁹A⁻, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocycle, arylalkyl, quaternary heterocycle, quaternary heteroaryl, P(O)R⁷R⁸, P⁺R⁷R⁸A⁻, and P(O)(OR⁷)OR⁸; and
- said R^y alkyl, alkenyl, alkynyl, polyalkyl, polyether, aryl, haloalkyl, cycloalkyl, and heterocycle can optionally have one or more carbons replaced by O, NR⁷, N⁺R⁷R⁸A⁻, S, SO, SO₂, S⁺R⁷A⁻, PR⁷, P(O)R⁷, P⁺R⁷R⁸A⁻, or phenylene; and
- R¹³, R¹⁴, and R¹⁵ are independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, polyalkyl, polyether, aryl, arylalkyl, alkylarylalkyl, alkylheteroarylalkyl, alkylheterocyclylalkyl, cycloalkyl, heterocycle, heteroaryl, quaternary heterocycle, quaternary heteroaryl, heterocyclylalkyl, heteroarylalkyl, quaternary heteroarylalkyl, alkylammoniumalkyl, and carboxyalkylaminocarbonylalkyl, and
- said R¹³, R¹⁴, and R¹⁵ alkyl, alkenyl, alkynyl, arylalkyl, heterocycle, and polyalkyl optionally have one or more carbons replaced by O, NR⁹, N⁺R⁹R¹⁰A⁻, S, SO, SO₂, S⁺R⁹A⁻, PR⁹, P⁺R⁹R¹⁰A⁻, P(O)R⁹, phenylene, carbohydrate, amino acid, peptide, or polypeptide, and
- R¹³, R¹⁴, and R¹⁵ are optionally substituted with one or more groups selected from the group consisting of hydroxy, amino, sulfo, carboxy, alkyl, carboxyalkyl, heterocycle, heteroaryl, sulfoalkyl, quaternary heterocycle, quaternary heteroaryl, quaternary heterocyclylalkyl, quaternary heteroarylalkyl, guanidinyl, OR⁹, NR⁹R¹⁰, N⁺R⁹R¹¹R¹²A⁻, SR⁹, S(O)R⁹, SO₂R⁹, SO₃R⁹, oxo, CO₂R⁹, CN, halogen, CONR⁹R¹⁰, SO₂OM, SO₂NR⁹R¹⁰, PO(OR¹⁶)OR¹⁷, P⁺R⁹R¹⁰ R¹¹A⁻, S⁺R⁹R¹⁰A⁻, and C(O)OM; or

- R¹³ and R¹⁴, together with the nitrogen atom to which they are attached form a mono- or polycyclic heterocycle that is optionally substituted with one or more radicals selected from the group consisting of oxo, carboxy and quaternary salts; or
- R¹⁴ and R¹⁵, together with the nitrogen atom to which they are attached, form a cyclic ring; and
- R⁹ and R¹⁰ are independently selected from the group consisting of H, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, acyl, heterocycle, ammoniumalkyl, arylalkyl, and alkylammoniumalkyl; and
- R¹¹ and R¹² are independently selected from the group consisting of H, alkyl, alkenyl, alkynyl, aryl, arylalkyl, alkenylalkyl, alkynylalkyl, heterocycle, carboxyalkyl, carboalkoxyalkyl, cycloalkyl, cyanoalkyl, OR⁹, NR⁹R¹⁰, SR⁹, S(O)R⁹, SO₂R⁹, SO₃R⁹, CO₂R⁹, CN, halogen, oxo, and CONR⁹R¹⁰, wherein R⁹ and R¹⁰ are as defined above; or
- R¹¹ and R¹² together with the nitrogen or carbon atom to which they are attached form a cyclic ring; and
- R¹⁶ and R¹⁷ are independently selected from the substituents constituting R⁹ and M; and
- R⁷ and R⁸ are hydrogen; and
- one or more R^x are independently selected from the group consisting of alkoxy, alkylamino and dialkylamino; or
- a pharmaceutically acceptable salt, solvate, or prodrug thereof.
- Claim 354 (new): A compound of claim 353 wherein R¹ and R² are each n-butyl.
- Claim 355 (new): A compound of claim 354 wherein t is 1, R^y is OR¹³.

Claim 356 (new): A compound of claim 355 wherein one or more R^x are independently selected from methoxy and dimethylamino.

Claim 357 (new): A compound of claim 355 wherein R^x is dimethylamino.

Claim 358 (new): A compound of claim 355 wherein: R^y is para-OR¹³ or meta-OR¹³.

Claim 359 (new): A compound of claim 355 having the 4R,5R configuration.

Claim 360 (new): The compound of claim 353 having the structural formula:

Claim 361 (new): The compound of claim 353 having the structural formula:

Claim 362 (new): The compound of claim 353 having the structural formula:

Claim 363 (new): The compound of claim 353 having the structural formula:

Claim 364 (new): The compound of claim 353 having the structural formula:

Claim 365 (new): The compound of claim 353 having the structural formula:

Claim 366 (new): The compound of claim 353 having the structural formula:

Claim 367 (new): The compound of claim 353 having the structural formula:

Claim 368 (new): The compound of claim 353 having the structural formula:

Claim 369 (new): The compound of claim 353 having the structural formula:

Claim 370 (new): The compound of claim 353 having the structural formula:

Claim 371 (new): The compound of claim 353 having the structural formula:

Claim 372 (new): The compound of claim 353 having the structural formula:

Claim 373 (new): The compound of claim 353 having the structural formula:

Claim 374 (new): The compound of claim 353 having the structural formula:

Claim 375 (new): The compound of claim 353 having the structural formula:

Claim 376 (new): The compound of claim 353 having the structural formula:

Claim 377 (new): The compound of claim 353 having the structural formula:

Claim 378 (new): The compound of claim 353 having the structural formula:

Claim 379 (new): The compound of claim 353 having the structural formula:

Claim 380 (new): The compound of claim 353 having the structural formula:

Claim 381 (new): The compound of claim 353 having the structural formula:

Claim 382 (new): The compound of claim 353 having the structural formula:

wherein R is PEG having a molecular weight of 5000 g/mol